National Cancer Institute

# A Snapshot of Cervical Cancer

## Incidence and Mortality

Although cervical cancer incidence and mortality rates have declined approximately 50 percent in the United States over the past three decades, the disease remains a serious health threat. Incidence rates for Hispanic women are higher than those for non-Hispanic women. African-American women have higher mortality rates than do women of any other racial/ethnic group in the United States. Although the mortality rate among African Americans has declined more rapidly than that among whites, it is still higher among African Americans than among whites. Geographic and socioeconomic disparities in cervical cancer mortality also exist.

Cervical cancer is preventable and curable if detected early. Important strategies to reduce the risk of cervical cancer include screening with the Papanicolaou (Pap) and, for some women, human papillomavirus (HPV) tests, as well as prevention of HPV infection with the HPV vaccine. Researchers have identified certain types of HPV that are transmitted through sexual contact as the cause of nearly all cervical cancers. Standard treatment options for cervical cancer include surgery, radiation therapy, and chemotherapy.

It is estimated that approximately $1.6 billion[1] is spent in the United States each year on cervical cancer treatment.

Source for incidence and mortality data: Surveillance, Epidemiology, and End Results (SEER) Program and the National Center for Health Statistics. Additional statistics and charts are available at the SEER Web site.

[1] Cancer Trends Progress Report, in 2010 dollars.

## Trends in NCI Funding for Cervical Cancer Research

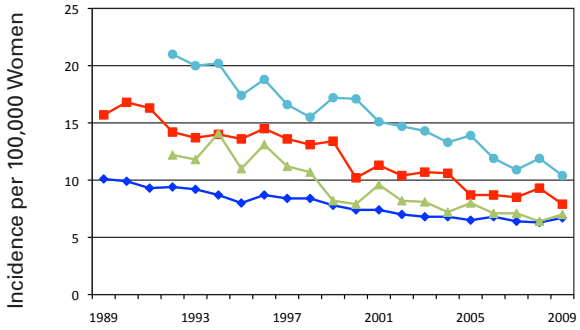
The National Cancer Institute's (NCI) investment[2] in cervical cancer research decreased from $82.4 million in fiscal year (FY) 2007 to $70.8 million in FY 2009 before increasing to $81.4 million in FY 2011. In addition to this funding, NCI supported $14.3 million in cervical cancer research in FY 2009 and 2010 using funding from the American Recovery and Reinvestment Act (ARRA).[3]

Source: NCI Office of Budget and Finance.

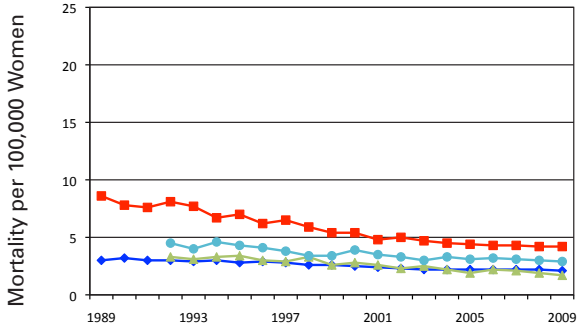
[2] The estimated NCI investment is based on funding associated with a broad range of peer-reviewed scientific activities. For additional information on research planning and budgeting at the National Institutes of Health (NIH), see About NIH.

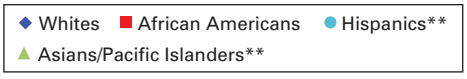
[3] For more information regarding ARRA funding at NCI, see Recovery Act Funding at NCI.

### U.S. Cervical Cancer Incidence*



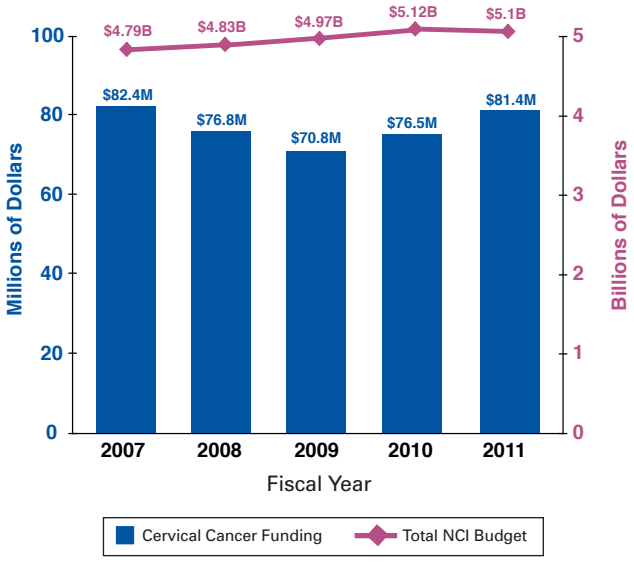

### U.S. Cervical Cancer Mortality*




* Insufficient data available for time trend analysis for American Indians/Alaska Natives.
** Incidence and mortality data not available before 1992.

### NCI Cervical Cancer Research Investment





U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health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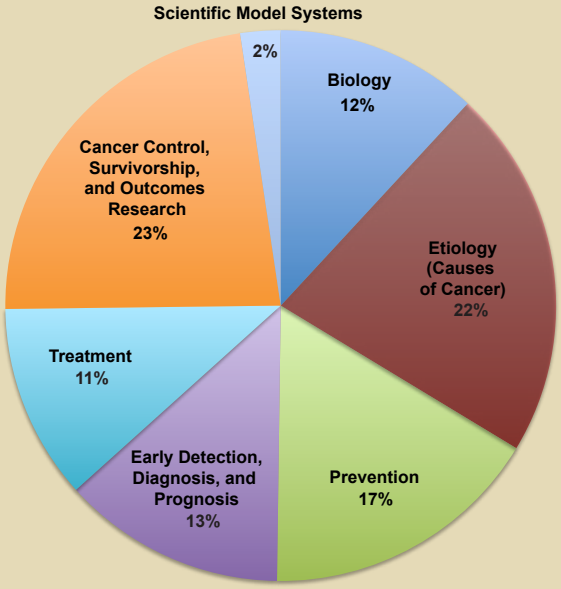
## Examples of NCI Activities Relevant to Cervical Cancer

- The **Centers for Population Health and Health Disparities** support transdisciplinary research on interactions of the social and physical environment, behavioral factors, and biologic pathways that determine health and disease in populations. One center is focusing on understanding why cervical cancer incidence and mortality are higher in Appalachian Ohio.
- NCI's **Division of Cancer Epidemiology and Genetics (DCEG)** supports ongoing follow-up of participants in an HPV vaccine trial to further investigate the vaccine's risks and benefits and conducts multiple **HPV-related studies**.
- NCI is funding research projects to investigate **Biomarkers of Infection-Associated Cancers**. One project is studying the homing mechanisms for genital immune response in HPV-associated disease, which may suggest optimal routes of therapeutic vaccination and determine the extent to which immune responses in the cervix can be detected in the peripheral blood.
- The **Breast and Gynecologic Cancer Research Group** supports studies on prevention and early detection of cervical cancer. These include development of new agents, biomarkers, and technologies.
- NCI's **Population-based Research Optimizing Screening through Personalized Regimens (PROSPR)** program supports multisite, coordinated transdisciplinary research on cervical cancer screening to better understand how to improve the screening process, including recruitment, diagnosis, and referral for treatment. The cervical cancer project is comparing self-collection to provider-directed HPV primary screening; analyzing statewide cervical screening, diagnosis, and treatment failures; and comparing the effectiveness of alternative interventions.
- Gynecologic-cancer-specific **Specialized Programs of Research Excellence (SPOREs)** are moving results from the laboratory to the clinical setting. One SPORE is focused specifically on preventive and therapeutic vaccines for cervical cancer.

## Additional Resources for Cervical Cancer

- The **What You Need To Know About™ Cervical Cancer** booklet provides information about diagnosis, staging, treatment, and follow-up care for cervical cancer. Information specialists also can answer questions about cancer at 1-800-4-CANCER.
- The NCI **Cervical Cancer Home Page** directs visitors to up-to-date information on cervical cancer treatment, prevention, genetics, causes, screening, testing, and related topics.
- The **HPV and Cancer Fact Sheet** and the **Pap and HPV Testing Fact Sheet** provide information on HPV infection and cervical cancer screening, including the use of HPV testing in screening.
- Information on treatment options for cervical cancer is available from **PDQ**, NCI's comprehensive cancer database.
- **Clinical trials for cervical cancer** can be found in NCI's list of clinical trials.

### NCI Cervical Cancer Research Portfolio




Percentage of Total Dollars by Scientific Area
Fiscal Year 2011

Data source: NCI Funded Research Portfolio. Only projects with assigned scientific area codes are included. A description of relevant research projects can be found on the NCI Funded Research Portfolio Web site.

## Selected Advances in Cervical Cancer Research

- A population-based study concluded that **3-year screening intervals are safe** for women aged 30 years and older with normal cervical cytology who also test negative for HPV. Published June 2011.
- An international research team determined that **two doses of HPV vaccine may be as protective as the full course** of three injections. Published September 2011.
- A disease simulation model incorporated health disparities to identify cost-effective cervical cancer **screening strategies that provide greater health benefits without exacerbating health disparities**. Published September 2011.
- Researchers determined that dependence on **expression of two HPV genes for continued growth** of human cervical carcinoma cells *in vitro* is an inherent rather than acquired property of the cells. Published November 2011.
- Click here to access selected free full-text journal articles on advances in NCI-supported research relevant to cervical cancer. Click here to search for additional scientific articles or to complete a search tutorial on PubMed.